

Things to Know, Understand and Do For Chapters 12, 13, and 14: Solution Chemistry

By the end of Chapters 12,13,and 14 you should

Know how to...
Distinguish between heterogeneous and homogeneous mixtures
Compare between suspensions, colloids, and solutions
Distinguish between electrolytes and nonelectrolytes
Define solute, solvent, soluble, and dissociate
List and explain three factors that affect the rate of dissolving of solids in liquids
List the three interactions that contribute to the heat of solution and explain what causes a dissolution to be endothermic or exothermic
Define Solubility, Saturated, Unsaturated, and Supersaturated and know how to read a solubility curve
Predict how a solubility equilibrium can change when conditions change
How to calculate molar, molal, and percent concentrations
How to calculate the amount of solute needed to make a specific volume of a molar concentration
How to tie molarity in stoichiometry
Define volatile and nonvolatile
Read a phase diagram and vapor pressure curve
Define colligative property
Calculate the changes in freezing and boiling points of aqueous solutions

understand...
How suspensions, colloids, and solutions are different and how the Tyndall Effect works
The 'like dissolves like' rule affects solubility
Pressure affects gas solubility (Henry's Law)
How a solubility curve is constructed and how temperature affects the solubility of gases and solids in aqueous solution
The dynamic state of equilibrium and how LeChatelier's Principle works
What Equilibrium Vapor Pressure is and how it responsible for boiling point for a liquid
Understand the difference between boiling and evaporation, and that melting and freezing points are the same thing
How solute can lower vapor pressure thus lower freezing point and elevate boiling point
How all the material in chapters 7, 8, 9, 10, and 11 can be dove-tailed together in this chapter

Ch 12, 13, 14 HMWK AF

ANSWER QUESTIONS IN THIS ORDER!

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